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1977

INLAND WATERBORNE COMMERCE STATISTICS

THE AMERICAN WATERWAYS OPERATORS, INC.
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INTRODUCTION

Dear Friend:

The barge and towing industry is a healthy, vital segment of the U.S. transportation system. It consists of some 1,800 companies operating on a system of 25,543 miles of navigable inland and intracoastal waterways, serving roughly 87 percent of major U.S. cities. It operates a fleet of 4,379 towboats and tugboats with a combined horsepower of 6.1 million, powering a fleet of nearly 25,000 dry cargo barges with a capacity of 9.5 million tons.

This book, Inland Waterborne Commerce Statistics, 1977, illustrates the growth and strategic importance of the industry by showing total tonnages and total ton miles moved by the total system and individually, on each major navigable river, intracoastal waterway, and canal.

A description of each waterway, with its navigable length precedes each discussion. Net tons and ton miles are shown for the early and middle 1970's as well as for 1977. In the center of this book is a map, showing locations for each of the waterways discussed.

This book also shows that in 1977, the last year for which figures are available, barges carried more than 640 million tons of freight or about two-thirds of the 930 million tons of total domestic waterborne traffic.

It demonstrates that in an era of energy shortages and increasing U.S. dependence on domestic coal, 60 percent of the products transported by barge are energy-related, i.e., 40 percent consist of petroleum and petroleum products and 20 percent consist of coal and lignite.

In addition to energy products, the industry moves building materials, (11 percent); grain and grain products (8.7 percent); chemicals (6.3 percent); and, in substantial quantities, more than 100 other kinds of bulk materials, including iron and steel products, lime, fertilizer, logs, marine shells, etc.

With respect to agricultural products, in 1977 barges handled 39 percent of U.S. grain exports and this figure has grown dramatically in the past several years.

The industry has three inherent advantages to offer shippers,

receivers, and the public. It is the lowest-cost, most energy-efficient and safest transportation mode.

The data is compiled from the latest reports issued by the Waterborne Commerce Statistics Center of the Army Corps of Engineers. The compilations and comparisons are prepared by the Research Department of The American Waterways Operators, Inc., and are published annually as a public information service.

Sincerely

James B. Potter Jr.

James B. Potter, Jr.
President
The American Waterways Operators, Inc.

COMMERCIALLY NAVIGABLE WATERWAYS OF THE UNITED STATES BY LENGTHS AND DEPTHS1/

	Lengths in Miles of Waterways					
Group	Under 6 ft.	6 to 9 ft.	9 to 12 ft.	12 to 14 ft.	14 ft. & Over	Total
Atlantic Coast Waterways	1,426	1,241	584	938	1,581	5,770
Atlantic Intracoastal Waterway Norfolk, Va. to Key West, Fla.	-	65	65	1,104	-	1,234
Gulf Coast Waterways	2,055	647	1,133	79	378	4,292
Gulf Intracoastal Waterway St. Marks, Fla. to the Mexican Border	-	-	-	1,137	-	1,137
Mississippi River System	2,020	969	4,957	740	268	8,954
Pacific Coast Waterways	730	498	237	26	2,084	3,575
Great Lakes	45	89	-	8	348	490
All Other Waterways	76	7	-	1	7	91
GRAND TOTAL	6,352	3,516	6,976	4,033	4,666	25,543

1/ The mileages in this table represent the lengths of all navigable channels of the United States, including those improved by the federal government, other agencies, and those which have not been improved but are usable for commercial navigation.

TRANSPORTATION MILEAGE BY MODE 2/

Airways	332,662 miles
Highways (paved primary and secondary roads)	689,648 miles
Waterways (commercially navigable lengths)	25,543 miles
Pipelines (oil pipelines, including gathering lines)	224,811 miles
Railroads (mainline right-of-ways)	192,396 miles

2/ All mileages shown are statute miles for calendar year 1976.

NUMBER OF TOWING VESSELS AND BARGES OF THE UNITED STATES OPERATED FOR THE TRANSPORTATION OF FREIGHT AS OF OCTOBER 1, 1977[1]/
(Calendar Year 1977)

Types of Vessels	Mississippi River System and the Gulf Intracoastal Waterway	Atlantic, Gulf and Pacific Coasts	Great Lakes System	Total
SELF-PROPELLED				
Towboats and Tugs				
Number of Vessels	2,614	1,617	148	4,379
Horsepower	3,905,052	2,103,846	152,450	6,161,348
NON-SELF-PROPELLED				
Dry Cargo Barges and Scows				
Number of Vessels	19,368	5,376	193	24,937
Cargo Capacity (net tons)	24,286,079	4,856,959	311,883	29,454,921
Tank Barges				
Number of Vessels	3,105	609	56	3,770
Cargo Capacity (net tons)	6,998,678	2,411,079	110,083	9,519,840
Total Non-Self Propelled				
Number of Vessels	22,473	5,985	249	28,707
Cargo Capacity (net tons)	31,284,757	7,268,038	421,966	38,974,761

1/ From Corps of Engineers, U. S. Army.

Note: U. S. Coast Guard reports, as of January 1, 1977, 6,705 documented vessels of the United States having a service of towing. The vessels reported by the Corps of Engineers are those used only in the performance of transportation services.

NUMBER OF TOWING VESSELS AND BARGES OF THE UNITED STATES OPERATED FOR THE TRANSPORTATION OF FREIGHT FOR THE YEARS 1972- 1976[1/]

Types of Vessels	1973	1974	1975	1976 [2/]
SELF-PROPELLED				
Towboats and Tugs				
Number of Vessels	4,035	4,100	4,240	4,379
Horsepower	4,621,450	5,088,221	5,585,891	6,161,348
NON-SELF-PROPELLED				
Dry Cargo Barges and Scows				
Number of Vessels	19,772	21,876	23,164	24,937
Cargo Capacity (net tons)	22,647,076	25,525,996	27,135,336	29,454,921
Tank Barges				
Number of Vessels	3,375	3,534	3,623	3,770
Cargo Capacity (net tons)	7,623,498	8,201,561	8,510,016	9,519,840
Total Non-Self-Propelled				
Number of Vessels	23,147	25,410	26,787	28,707
Cargo Capacity (net tons)	30,270,574	33,727,557	35,645,352	38,974,761

1/ From Corps of Engineers, U. S. Army

2/ U. S. Coast Guard reports 6,548 documented vessels of the United States having a service of towing as of January 1, 1976. The vessels reported by the Corps of Engineers are those used only in the performance of transportation services.

TRAFFIC TRANSPORTED ON INLAND WATERWAYS OF UNITED STATES
(Exclusive of Great Lakes)1/

Year	Net Tons Of 2,000 Pounds 1/	Ton-Miles
1940	183,417,791	22,411,961,000
:	:	:
1965	472,480,483	152,812,240,000
1966	489,066,210	164,528,798,000
1967	500,912,733	174,582,978,000
1968	520,904,639	179,336,707,000
1969	548,481,358	187,666,323,000
1970	553,598,222	204,084,966,000
1971	560,470,417	210,003,291,000
1972	597,255,337	229,754,230,000
1973	596,459,513	232,307,988,000
1974	599,219,554	247,430,888,000
1975	582,211,482	243,038,688,000
1976	607,703,665	267,216,851,000
1977	612,149,130	277,580,717,000

1/ Known duplications resulting from reporting of identical shipments over two or more waterways have been eliminated except that the figures for 1965 and subsequent years represent originated traffic.

COASTAL AND COASTWISE TRAFFIC 2/

Year	Net Tons Of 2,000 Pounds	Ton-Miles
1958	194,050,174	304,770,000,000
:	:	:
1965	201,508,107	302,545,000,000
1966	208,374,966	306,766,000,000
1967	214,646,527	310,429,000,000
1968	214,250,535	304,480,000,000
1969	216,707,773	300,948,000,000
1970	238,440,385	359,784,000,000
1971	242,916,056	360,205,000,000
1972	242,660,087	351,509,000,000
1973	236,794,660	327,649,000,000
1974	233,358,124	322,802,209,000
1975	231,932,437	315,845,946,000
1976	236,278,624	322,932,250,000
1977	248,083,336	343,536,591,000

2/ Applies to domestic traffic receiving a carriage over the ocean or the Gulf of Mexico, e.g., New Orleans to Baltimore, New York to Puerto Rico, San Francisco to Hawaii, or Puerto Rico to Hawaii. Traffic between Great Lakes ports and seacoast ports, when having a carriage over the ocean, is also termed coastwise.

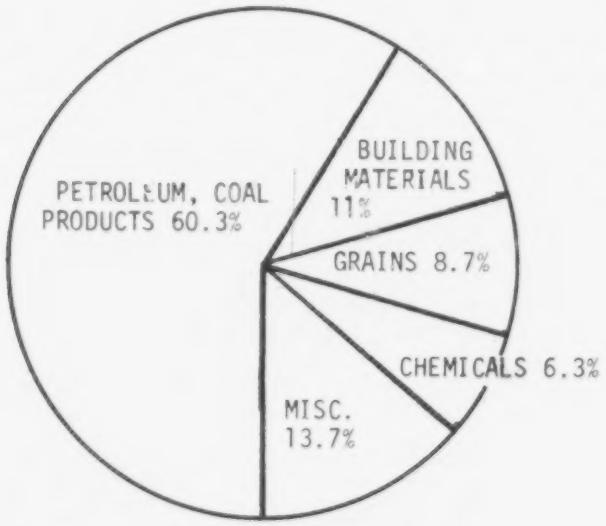
PRINCIPAL COMMODITIES TRANSPORTED ON THE INLAND WATERWAYS OF THE UNITED STATES (EXCLUSIVE OF THE GREAT LAKES) IN NET TONS OF 2,000 POUNDS—CALENDAR YEARS 1976 and 1977

Commodity	1976	1977
Grain and grain products	42,707,659	39,916,166
Soybeans	11,205,843	11,684,156
Fresh fish and shellfish	1,817,304	1,655,316
Menhaden	822,823	762,015
Marine shells, unmanufactured	12,124,215	12,148,007
Iron ore and concentrates	5,968,223	5,685,031
Aluminum ore and concentrates	--	930,884
Manganese ores and concentrates	860,530	611,833
Nonferrous ore concentrates, n.e.c.	864,588	789,489
Bituminous coal and lignite	129,822,299	130,386,114
Crude petroleum	52,743,679	54,076,354
Limestone	2,138,340	1,748,972
Sand, gravel and crushed rock	58,085,741	55,404,297
Clay and structural clay products	1,923,657	1,843,138
Sulphur, dry and liquid	4,250,260	4,513,728
Nonmetallic minerals, n.e.c.	5,436,254	5,106,808
Sugar	805,677	943,472
Molasses	974,460	852,938
Vegetable oils, margarine, shortening	1,115,177	1,128,752
Logs	683,336	635,736
Rafted logs	16,948,511	16,280,176
Pulpwood, log	1,589,018	1,404,167
Lumber and lumber products	2,575,394	2,590,812
Pulp	882,511	844,773
Paper and paper products	1,967,643	2,160,798
Sodium hydroxide	3,681,031	3,981,234
Crude tar, oil, gas products	2,749,241	1,713,611
Alcohols	2,306,468	2,401,532
Benzene and toluene	3,664,542	3,694,202
Sulphuric acid	2,354,479	2,488,280
Basic chemicals and products, n.e.c.	12,267,298	13,242,616
Fertilizer and fertilizer materials	6,557,423	7,960,459
Gasoline	37,981,831	39,257,866
Jet fuel	5,109,397	5,760,672
Kerosene	1,981,404	2,314,792
Distillate fuel oil	41,294,094	42,013,920
Residual fuel oil	74,738,421	78,628,128
Lubricating oils and greases	2,429,528	2,720,002
Naphtha petroleum solvents	2,058,210	2,973,843
Asphalt tar and pitches	4,373,084	4,900,087
Coke, petroleum coke	1,850,740	2,648,198
Liquefied gases	1.332,465	1,078,882
Other petroleum and coal products	2,233,208	2,245,555
Building cement	3,812,558	4,462,148
Lime	703,028	871,747
Miscellaneous nonmetallic mineral products	635,243	594,989
Slag	876,852	887,886
Iron and steel products	6,331,019	6,559,961
Fabricated metal products	592,817	552,216
Miscellaneous manufactured products	1,894,973	1,768,858
Iron and steel scrap	1,855,714	1,680,386
Waste and scrap, n.e.c.	14,895,619	12,046,685
Water	2,893,196	3,472,741
Other commodities	5,835,639	5,123,702
GRAND TOTAL	607,703,665	612,149,130

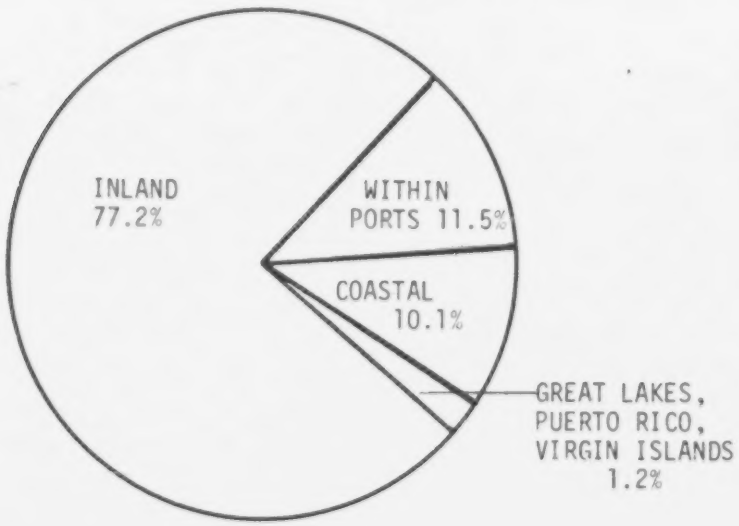
THE SCOPE OF THE BARGE AND TOWING INDUSTRY

The barge and towing industry carried 640.2 million tons of freight in 1977, about 66 percent of total domestic marine traffic. Barge traffic moves on the inland waterways, within ports, on the coastal waters of the United States, on the Great Lakes and between ports in Puerto Rico and the Virgin Islands.

BARGE TRANSPORTATION BY COMMODITY



BARGE TRANSPORTATION BY WATERWAY SYSTEM



The barge and towing industry continues to show long-term, steady growth. Barge traffic increased from 562 million tons in 1970 to 640.2 million tons in 1977, a 13.9 percent increase.

ALLEGHENY RIVER

SECTION: From Pittsburgh, at the confluence with the Ohio River, to above East Brady, Pennsylvania, improved portion - 72 miles

CONTROLLING DEPTH: 9 feet; Open channel portion above East Brady,

TOTAL ANNUAL TRAFFIC

	Improved Portion		Open Channel Portion	
Year	Net Tons	Ton-Miles	Net Tons	Ton-Miles
1970	5,661,147	70,856,297	235,500	718,500
1971	5,946,165	80,643,101	212,500	1,087,000
1972	5,425,369	80,024,511	72,892	422,034
1973	5,317,340	83,101,087	167,060	810,420
1974	5,532,052	87,302,440	130,332	808,110
1975	5,362,206	85,780,386	--	--
1976	4,981,158	78,598,435	--	--
1977	5,084,990	89,243,482	--	--

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

	Net Tons	
Commodity	Improved Portion	Open Channel Portion
Nonferrous ores, concentrates, n.e.c.	17,786	No commerce
Coal and lignite	1,898,559	reported for:
Sand, gravel, crushed rock	2,005,697	1975
Clay	11,645	1976
Nonmetallic minerals, n.e.c.	135,800	1977
Wheat flour and semolina	36,541	
Alcohols	72,920	
Basic chemicals and products, n.e.c.	12,297	
Fertilizer and materials, n.e.c.	13,515	
Gasoline	14,826	
Kerosene	2,917	
Distillate fuel oil	175,082	
Residual fuel oil	69,644	
Lubricating oils and greases	271,558	
Naphtha, petroleum solvents	20,245	
Asphalt, tar and pitches	109,381	
Coke, petroleum coke	15,063	
Other petroleum and coal products	6,281	
Ferroalloys	39,742	
Iron and steel products	12,405	
Nonferrous metals, n.e.c.	9,382	
Machinery, except electrical	10,406	
Iron and steel scrap	110,740	
Miscellaneous	12,558	
GRAND TOTAL	5,084,990	

APALACHICOLA, CHATTAHOOCHEE AND FLINT RIVERS*

SECTION: The Apalachicola River from Apalachicola Bay to the confluence of the Chattahoochee and Flint Rivers, the Chattahoochee River to Columbus, Georgia (268 miles), and the Flint River to Bainbridge, Georgia (29 miles) - Total: 297 miles

* Gulf Intracoastal Waterway through traffic over lower 6 miles of the Apalachicola River is excluded.

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	913,871	87,983,881
1971	898,087	97,957,858
1972	1,025,275	108,210,390
1973	1,024,890	124,189,253
1974	951,026	103,370,745
1975	811,862	85,902,387
1976	1,030,399	106,807,621
1977	1,070,165	135,546,345

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Corn	--	9,465
Soybeans	--	28,191
Alcohols	--	4,498
Crude petroleum	--	29,560
Sand, gravel, crushed rock	--	447,090
Molasses	--	2,400
Crude tar, oil, gas products	--	9,551
Marine shells, unmanufactured	--	3,947
Benzene and toluene	--	12,593
Basic chemicals and products, n.e.c.	--	71,550
Fertilizer and fertilizer materials	--	179,475
Miscellaneous chemical products	--	5,339
Gasoline	--	50,735
Distillate fuel oil	--	116,330
Residual fuel oil	--	34,404
Lubricating oils and greases	--	2,765
Naphtha, petroleum solvents	--	27,945
Asphalt, tar and pitches	--	30,551
Machinery, except electrical	250	--
Ships and boats	330	3,196
GRAND TOTAL	580	1,069,585

ATLANTIC INTRACOASTAL WATERWAY

SECTION: From Norfolk, Virginia, to St. Johns River at Jacksonville, Florida - 739 miles

CONTROLLING DEPTH: 12 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	4,001,496	636,763,972
1971	3,662,166	570,922,609
1972	4,361,217	691,882,360
1973	3,931,592	581,126,564
1974	3,537,217	531,899,709
1975	3,218,552	474,560,638
1976	4,470,292	589,392,930
1977	4,803,739	616,303,126

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Grain and grain products	--	82,361
Soybeans	--	29,259
Fresh fish, except shellfish	--	7,662
Shellfish, except prepared	206	28,770
Menhaden	--	36,683
Iron ore and concentrates	--	431,311
Nonferrous ores, concentrates, n.e.c.	--	71,246
Sand, gravel, crushed rock	--	188,072
Clay and structural clay products	--	48,190
Sulphur, liquid	--	467,500
Sugar	--	29,050
Miscellaneous food products	--	20,845
Basic textile products	50	10,483
Pulpwood, log	--	409,730
Wood chips, staves, moldings	--	67,232
Pulp	--	148,767
Paper and paperboard	--	68,036
Sodium hydroxide	4,098	53,900
Fertilizer and fertilizer materials	--	637,347
Gasoline	--	120,810
Jet fuel	--	178,969
Kerosene	--	15,465
Distillate fuel oil	--	234,903
Coke, petroleum coke	--	45,188
Residual fuel oil	--	1,066,203
Naptha, petroleum solvents	--	34,911
Miscellaneous nonmetallic mineral products	125	3,628
Iron and steel products	--	98,867
Aluminum and alloys, unworked	5,000	526
Fabricated metal products	11,195	26,670
Machinery, except electrical	4,667	5,956

Electrical machinery and equipment	2,198	1,031
Motor vehicles, parts, equipment	58	13,898
Aircraft and parts	280	52
Commodities, n.e.c.	146	11,069
Ships and boats	364	1,989
Iron and steel scrap	18,222	14,251
Miscellaneous	--	46,280
GRAND TOTAL	46,609	4,757,130

ATLANTIC INTRACOASTAL WATERWAY

SECTION: From St. Johns River at Jacksonville to Miami, Florida - 349 miles

CONTROLLING DEPTHS: 10 to 12 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	1,092,284	39,822,259
1971	869,289	25,217,290
1972	837,852	64,067,389
1973	1,182,475	44,880,349
1974	1,505,534	33,208,570
1975	1,228,098	24,462,086
1976	1,393,370	29,540,456
1977	1,269,218	36,537,889

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Fresh fish, except shellfish	--	4,302
Shellfish, except prepared	--	603
Sugar	--	29,050
Ice	--	609
Sodium hydroxide	4,098	--
Distillate fuel oil	5,039	7,385
Residual fuel oil	956	1,147,227
Naptha, petroleum solvents	--	1,312
Asphalt, tar, and pitches	3,050	--
Miscellaneous nonmetallic mineral products	125	14,833
Iron and steel products	52	2,240
Aluminum and alloys, unworked	5,000	--
Fabricated metal products	3,180	2,890
Machinery, except electrical	5,253	3,207
Electrical machinery and equipment	1,490	120
Ships and boats	10,791	6,203
Iron and steel scrap	--	6,795
Commodities, n.e.c.	--	2,555
Miscellaneous	405	448
GRAND TOTAL	39,439	1,229,779

BLACK WARRIOR, WARRIOR AND TOMBIGBEE RIVER SYSTEM

SECTION: From mouth of Chickasaw Creek to mile 427 on Mulberry Fork, mile 427.6 on Sipsey Fork, and mile 407 on Locust Fork of the Black Warrior River

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	14,101,223	3,728,750,287
1974	15,548,253	4,247,424,309
1975	12,797,822	3,267,425,580
1976	14,705,635	4,403,614,065
1977	15,287,119	4,531,485,349

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons Inland Waterway
Grain	16,733
Soybeans	268,014
Marine shells, unmanufactured	82,994
Iron ore and concentrates	3,611,000
Manganese ores, concentrates	107,740
Coal and lignite	7,089,884
Crude petroleum	572,974
Limestone	687,100
Sand, gravel, crushed rock	922,014
Clay and structural clay products	86,568
Nonmetallic minerals, n.e.c.	117,146
Logs	133,379
Pulpwood, log	239,818
Sodium hydroxide	287,429
Alcohols	16,694
Benzene and toluene	63,509
Sulphuric acid	40,195
Basic chemicals and products, n.e.c.	65,488
Fertilizers and fertilizer materials	27,885
Distillate fuel oil	32,670
Residual fuel oil	130,790
Lubricating oils and greases	14,666
Naphtha, petroleum solvents	14,567
Asphalt, tar and pitches	93,743
Other petroleum products	14,380
Iron and steel products	127,035
Lead and zinc, unworked	3,653
Pig iron	7,194
Fabricated metal products	5,041
Machinery, except electrical	5,821
Iron and steel scrap	379,238
Miscellaneous	21,757
GRAND TOTAL	15,287,119

CALUMET-SAG CHANNEL

SECTION: From junction at Chicago Sanitary and Ship Canal to Blue Island, Illinois - 24 miles

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	6,111,949	135,161,957
1974	6,983,482	155,253,669
1975	7,126,396	157,743,811
1976	6,466,901	141,937,480
1977	6,343,439	140,724,724

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Coastwise and Lakewise	Inland Waterway
Grain and grain products	--	516,367
Soybeans	--	125,938
Aluminum ores and concentrates	--	94,786
Manganese ore and concentrates	--	21,470
Nonferrous ores, concentrates, n.e.c.	--	21,185
Coal and lignite	--	420,853
Sand, gravel, crushed rock	--	376,247
Nonmetallic minerals, n.e.c.	--	274,243
Tallow, animal fats and oils	--	25,049
Prepared animal feeds	5,114	10,795
Molasses	--	58,479
Sodium hydroxide	--	70,724
Crude tar, oil, gas products	5,279	15,054
Alcohols	--	14,932
Benzene and toluene	1,383	31,738
Basic chemicals and products, n.e.c.	36,331	278,620
Fertilizer and fertilizer materials	12,575	127,947
Gasoline	34,705	96,747
Kerosene	2,693	32,464
Distillate fuel oil	151,143	145,809
Residual fuel oil	266,320	275,536
Lubricating oils and greases	--	29,311
Naphtha, petroleum solvents	--	62,583
Coke, petroleum coke	--	424,496
Building cement	--	26,127
Lime	--	268,965
Slag	--	103,361
Iron and steel products	1,196	1,347,216
Lead and zinc, unworked	--	15,818
Ferroalloys	--	156,496
Fabricated metal products	503	18,081
Iron and steel scrap	63,025	207,735
Miscellaneous	7,318	60,682
GRAND TOTAL	587,585	5,755,854

CHESAPEAKE BAY

SECTION: From Baltimore, Maryland, to the Capes of Virginia - 200 miles

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	24,818,016	2,264,018,769
1971	25,386,658	2,370,548,397
1972	26,211,332	2,369,353,925
1973	29,569,692	2,756,580,316
1974	30,000,983	2,647,719,258
1975	26,820,368	2,312,096,563
1976	26,443,040	2,427,968,892
1977	23,549,560	1,984,596,243

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Shellfish, except prepared	263,029
Marine shells, unmanufactured	348,070
Coal and lignite	2,676,560
Crude petroleum	247,021
Sand, gravel, crushed rock	312,283
Sulphur, liquid	278,124
Wood chips, staves, moldings	317,732
Gasoline	3,884,962
Jet fuel	855,986
Kerosene	176,656
Distillate fuel oil	3,457,617
Residual fuel oil	5,162,277
Lubricating oils and greases	124,309
Naphtha, petroleum solvents	134,558
Asphalt, tar and pitches	1,312,279
Coke, petroleum coke	45,188
Liquefied gases	501
Asphalt building materials	736
Petroleum and coal products, n.e.c.	130,769
Building cement	404,476
All other commerce	3,416,427
GRAND TOTAL	23,549,560

COLUMBIA RIVER

SECTION: From the International boundary, south to the mouth of the Snake River, and westerly between Oregon and Washington to the mouth of the Columbia River at the Pacific Ocean - 745 miles (navigation mileage - 340)

CONTROLLING DEPTHS: 4 to 35 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	27,041,113	2,374,533,645
1971	25,829,472	2,154,224,739
1972	31,341,190	2,688,814,828
1973	34,413,507	3,165,990,692
1974	39,149,042	3,231,365,552
1975	38,121,549	3,194,430,506
1976	41,960,981	3,630,340,960
1977	38,541,767	4,522,164,844

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Grain and grain products	6,450,793	3,403,223	9,854,016
Iron ore and concentrates	34,600	--	34,600
Aluminum ore, concentrates	37,938	--	37,938
Crude petroleum	570,167	--	570,167
Limestone	129,413	--	129,413
Sand, gravel, crushed rock	827,042	1,527,150	2,354,192
Clay and structural clay products	75,753	12,905	88,658
Fertilizer and fertilizer materials	198,218	63,588	261,806
Salt	340,176	--	340,176
Vegetables and preparations, n.e.c.	76,035	399	76,434
Molasses	56,389	18,146	74,535
Veg. oils, margarine, shortening	66,300	--	66,300
Logs	3,358,493	57,585	3,416,078
Rafted logs	--	6,914,260	6,914,260
Fuel wood, charcoal, wastes	25,931	397,905	423,836
Timber, posts, poles, piling	37,240	12,569	49,809
Wood chips, staves, moldings	1,811,227	892,966	2,704,193
Lumber	432,536	19,075	451,611
Veneer, plywood, worked wood	194,618	12,100	206,718
Pulp	119,190	304,770	423,960
Paper and paperboard	157,097	31,709	188,806
Pulp and paper products, n.e.c.	12,463	1,125,019	1,137,482
Basic chem. and products, n.e.c.	1,675,568	147,942	1,823,510
Gasoline	986,061	655,718	1,641,779
Jet fuel	9,875	40,491	50,366
Kerosene	5,014	6,729	11,743
Distillate fuel oil	1,255,976	515,305	1,771,281
Residual fuel oil	988,880	370,036	1,358,916
Lubricating oils and greases	88,759	--	88,759
Asphalt, tar and pitches	195,704	33,861	229,565
Other petroleum and coal products	38,692	--	38,692
Iron and steel products	506,532	1,356	507,888
Fabricated metal products	75,495	18,879	94,374
Machinery, except electrical	42,268	4,804	47,072
Motor vehicles, parts, equipment	264,197	--	264,197
Iron and steel scrap	163,014	--	163,014
Miscellaneous	585,676	59,947	645,623
GRAND TOTAL	21,893,330	16,648,437	38,541,767

CUMBERLAND RIVER

SECTION: From the mouth near Smithland, Kentucky, at its junction with the Ohio River to Celina, Tennessee - 380.8 miles

CONTROLLING DEPTHS: 8 to 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	5,569,238	596,995,976
1971	5,792,355	677,311,139
1972	8,251,271	882,020,973
1973	10,813,213	1,054,753,548
1974	11,034,025	982,502,698
1975	11,860,145	1,098,589,441
1976	11,318,873	1,085,375,760
1977	12,761,169	1,125,392,878

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Grain and grain products	12,864
Soybeans	5,125
Coal and Lignite	5,003,240
Clay	17,814
Nonmetallic minerals, n.e.c.	3,370,810
Sugar	9,679
Crude tar, oil, gas products	80,408
Alcohols	32,324
Sulphuric acid	34,816
Basic chemicals and products, n.e.c.	100,576
Gasoline	726,646
Jet fuel	80,875
Distillate fuel oil	238,124
Residual fuel oil	107,502
Lubricating oils and greases	85,828
Asphalt tar and pitches	247,585
Other petroleum and coal products	3,508
Building cement	249,631
Lime	272,650
Slag	15,118
Iron and steel products	312,857
Machinery, except electrical	9,628
Iron and steel scrap	36,344
Waterway improvement material	1,668,957
Miscellaneous	38,260
GRAND TOTAL	12,761,169

DELAWARE RIVER

SECTION: From Trenton, New Jersey, to Deepwater Point at mouth of Delaware Bay - 129 miles

CONTROLLING DEPTHS: 10 to 40 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	123,975,124	9,654,336,003
1971	123,543,497	9,793,833,154
1972	127,207,307	9,635,344,851
1973	139,297,118	10,744,205,966
1974	143,673,501	11,437,006,814
1975	131,819,164	10,446,605,935
1976	133,696,091	10,431,934,520
1977	133,276,227	10,215,907,280

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Grain and grain products	1,313,989	--	1,313,989
Soybeans	369,233	--	369,233
Bananas and plantains	116,131	--	116,131
Cocoa beans	113,403	--	113,403
Iron ore and concentrates	7,386,528	--	7,386,528
Aluminum ores and concentrates	53,539	1,430	54,969
Nonferrous ores, concentrates, n.e.c.	155,216	42,187	197,403
Coal and lignite	885,211	842,899	1,728,110
Crude petroleum	54,894,975	11,044,528	65,939,503
Limestone	990,814	--	990,814
Sand, gravel, crushed rock	1,932	654,328	656,260
Clay and structural clay	28,333	--	28,333
Fertilizer and fertilizer materials	153,969	8,825	162,794
Sulphur, dry and liquid	77,584	--	77,584
Nonmetallic minerals, n.e.c.	126,914	--	126,914
Meat, fresh, chilled, frozen	105,790	--	105,790
Sugar	1,300,348	--	1,300,348
Molasses	10,265	--	10,265
Miscellaneous food products	113,551	863	114,414
Basic textile products	50,858	1,103	51,961
Lumber	406,048	--	406,048
Veneer, plywood, worked wood	167,369	--	167,369
Pulp	3,539	104,399	107,938
Standard newsprint paper	278	--	278
Sodium hydroxide	221,858	26,067	247,925
Crude tar, oil, gas products	146,958	21,497	168,455
Alcohols	94,474	--	94,474
Benzene and toluene	152,747	136,526	289,273
Sulphuric acid	50,490	469,280	519,770

DELAWARE RIVER
(Continued)

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Basic chemicals and products, n.e.c.	792,330	195,854	988,184
Plastic materials	59,160	--	59,160
Miscellaneous chemical products	48,000	6	48,006
Gasoline	7,998,827	1,946,161	9,944,988
Jet fuel	405,326	532,537	937,863
Kerosene	297,669	241,295	538,964
Distillate fuel oil	6,877,893	3,445,326	10,323,219
Residual fuel oil	9,927,546	8,579,487	18,507,033
Lubricating oils and greases	1,125,605	173,637	1,299,242
Naphtha, petroleum solvents	511,154	59,652	570,806
Asphalt, tar and pitches	840,807	296,651	1,137,458
Other petroleum and coal products	136,219	152,566	288,785
Glass and glass products	53,112	--	53,112
Building cement	169,933	--	169,933
Pig iron	57,195	--	57,195
Coke, petroleum pitches and asphalts and naphtha solvents	1,029,239	--	1,029,239
Iron and steel products	1,640,194	23,841	1,664,035
Lead and zinc, unworked	76,921	--	76,921
Fabricated metal products	76,364	998	77,362
Machinery, except electrical	167,058	4,039	171,097
Motor vehicles, parts, equipment	357,600	20	357,620
Iron and steel scrap	405,202	--	405,202
Nonferrous metal scrap	113,231	--	113,231
Waste and scrap, n.e.c.	-	518,940	518,940
Commodities, n.e.c.	171,366	79,134	250,500
Miscellaneous	752,932	88,924	841,856
GRAND TOTAL	103,583,227	29,693,000	133,276,227

GREEN AND BARREN RIVERS

SECTION: Green River - From near Evansville, Indiana, at the Green River's confluence with the Ohio River, to mouth of Barren River - 149.5 miles.
Barren River - From junction with Green River at Woodbury, Kentucky, to Bowling Green, Kentucky - 30 miles

CONTROLLING DEPTHS: 5 1/2 to 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	16,904,306	1,545,777,192
1971	14,610,917	1,348,165,401
1972	16,245,729	1,467,228,335
1973	15,517,337	1,395,537,021
1974	15,639,721	1,426,247,039
1975	15,893,645	1,439,134,454
1976	13,781,231	1,203,359,390
1977	13,501,167	1,154,759,525

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Grain	117,919
Soybeans	17,042
Aluminum ores and concentrates	45,842
Coal and lignite	13,231,147
Sand, gravel, crushed rock	45,866
Nonmetallic minerals, n.e.c.	1,604
Basic chemicals and products, n.e.c.	1,526
Coke, petroleum coke	39,929
Electrical machinery and equipment	292
GRAND TOTAL	13,501,167

GULF INTRACOASTAL WATERWAY

SECTION: From Apalachee Bay (St. Marks), Florida, to Brownsville, Texas - 1108.9 miles

Alternate Route: Morgan City, Louisiana, to Port Allen, Louisiana - 64 miles

CONTROLLING DEPTHS: 10 to 12 feet

TOTAL ANNUAL TRAFFIC

	Main Route		Alternate Route	
Year	Net Tons	Ton-Miles	Net Tons	Ton-Miles
1971	105,975,450	17,767,478,670	14,368,939	854,221,099
1972	108,999,010	17,879,308,331	19,173,890	1,156,297,016
1973	100,767,257	16,578,104,685	14,269,832	871,055,019
1974	103,076,142	17,078,855,710	15,895,856	970,581,229
1975	96,950,849	15,594,606,116	17,083,459	1,049,516,733
1976	99,085,379	16,511,685,908	18,961,414	1,160,488,912
1977	104,934,179	18,227,332,044	18,456,491	1,131,951,427

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons Oceangoing	Net Tons Inland Waterway	Alternate Route
Grain and grain products	66,760	981,904	122,848
Soybeans	--	846,529	82,544
Menhaden	--	88,677	--
Marine shells, unmanufactured	--	7,860,644	235,267
Iron ore and concentrates	--	46,477	568
Aluminum ore, concentrates	--	54,984	25,170
Manganese ores and concentrates	--	70,349	28,926
Nonferrous ores and concentrates	--	160,007	16,032
Coal and lignite	3,737	4,220,840	200,856
Crude petroleum	--	24,746,580	908,008
Limestone	--	689,500	2,400
Sand, gravel, crushed rock	--	2,292,649	148,018
Clay and structural clay products	614	893,082	8,264
Sulphur, dry and liquid	--	728,666	8,576
Prepared animal feeds	5,114	38,481	--
Nonmetallic minerals, n.e.c.	67,151	4,508,232	2,460,281
Sugar	2,981	156,617	20,222
Molasses	--	54,481	10,031
Animal oils and fats, n.e.c.	--	40,269	--
Pulpwood, log	--	64,142	--
Pulp	--	69,367	1,338
Paper and paperboard	--	119,479	2,468
Sodium hydroxide	71,933	1,935,199	304,139
Crude tar, oil, gas products	--	777,067	258,827
Alcohols	--	1,299,410	796,825
Benzene and toluene	--	2,127,367	329,455

GULF INTRACOASTAL WATERWAY
(Continued)

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Alternate Route
Sulphuric acid	--	757,116	119,093
Basic chemicals and products, n.e.c.	1,266	6,115,674	2,732,602
Plastic materials	--	71,905	41,961
Synthetic rubber	--	111,396	3,767
Fertilizer and fertilizer materials	195,558	1,446,752	351,605
Miscellaneous chemical products	--	1,140,428	33,151
Gasoline	--	7,947,923	1,830,399
Jet fuel	--	872,517	100,808
Kerosene	--	644,397	129,481
Distillate fuel oil	--	5,026,639	980,457
Residual fuel oil	61,906	12,944,595	3,230,334
Lubricating oils and greases	--	1,938,902	767,758
Naphtha, petroleum solvents	--	2,220,515	600,976
Asphalt, tar and pitches	79,901	1,383,529	221,547
Coke, petroleum coke	--	811,527	61,530
Liquefied gases	--	467,868	166,612
Other petroleum and coal products	--	414,845	64,266
Building cement	9,994	625,634	45,243
Misc. nonmetallic mineral products	--	236,840	--
Slag	5,385	6,239	1,520
Iron and steel products	11,232	1,572,323	575,384
Ferroalloys	--	82,087	33,700
Lead and zinc, unworked	--	58,503	36,366
Aluminum and alloys, unworked	5,000	36,539	34,882
Fabricated metal products	2,875	41,283	10,852
Machinery, except electrical	6,429	44,721	944
Electrical machinery and equipment	3,632	76,739	58,347
Ships and boats	10,863	11,272	5,534
Miscellaneous manufactured products	55	693,013	60
Iron and steel scrap	15,025	535,796	81,872
Waste and scrap, n.e.c.	--	667,060	83,025
Water	--	1,118,853	--
Waterway improvement materials	--	64,340	55,133
Commodities, n.e.c.	--	54,957	--
Miscellaneous	380	192,657	26,219
GRAND TOTAL	627,791	104,306,388	18,456,491

HOUSTON SHIP CHANNEL

SECTION: From Galveston Harbor, Texas, through San Jacinto River and Buffalo Bayou to Turning Basin at Houston, Texas - 52 miles

CONTROLLING DEPTHS: 6 to 37 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	64,654,263	2,657,652,613
1971	68,423,829	2,865,468,463
1972	71,430,789	2,948,312,107
1973	88,517,992	3,741,921,450
1974	89,106,389	3,767,066,327
1975	83,674,039	3,550,923,871
1976	89,897,598	3,834,608,638
1977	104,291,267	3,285,460,564

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Alcoholic beverages	77,154	--
Cotton	65,775	605
Grain and grain products	8,767,433	219,468
Oilseeds, n.e.c.	48,901	14,080
Soybeans	405,886	11,283
Coffee	59,608	1,510
Marine shells, unmanufactured	--	1,124,851
Iron ore and concentrates	941,139	568
Manganese ore, concentrates	60,031	32,847
Coal and lignite	6,515	234,957
Crude petroleum	28,191,874	3,584,318
Limestone	235,769	--
Sand, gravel, crushed rock	12,221	1,671,620
Clay and structural clay products	100,145	483,914
Sulphur, dry and liquid	618	210,344
Nonmetallic minerals, n.e.c.	948,647	13,702
Tallow, animal fats and oils	276,860	8,864
Animal by-products, n.e.c.	74,819	--
Molasses	457,295	36,876
Vegetable oils, margarine, shortening	210,146	329
Sodium hydroxide	394,670	656,323
Crude tar, oil, gas products	365,382	468,043
Alcohols	323,481	861,073
Benzene and toluene	392,375	1,487,499
Sulphuric acid	2	841,268
Basic chemicals	2,552,019	2,077,204

HOUSTON SHIP CHANNEL
(continued)

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Plastic materials	301,570	1,469
Synthetic rubber	80,503	23,864
Fertilizer and fertilizer materials	2,506,047	588,444
Miscellaneous chemical products	349,663	76,078
Gasoline	6,254,845	1,384,010
Jet fuel	951,161	318,733
Kerosene	492,049	168,386
Distillate fuel oil	6,132,609	1,705,899
Residual fuel oil	3,780,969	7,553,756
Lubricating oils and greases	1,149,617	907,897
Naphtha, petroleum solvents	571,176	740,092
Asphalt, tar, and pitches	3,668	317,099
Coke, petroleum coke	47	73,151
Liquefied gases	860,717	132,951
Other petroleum and coal products	97,291	386,662
Rubber & miscellaneous plastic products	55,334	1,949
Building cement	105,368	44,712
Coke, petroleum asphalts, solvents	544,241	--
Iron and steel products	2,375,272	824,956
Fabricated metal products	237,526	16,579
Machinery, except electrical	410,168	20,079
Motor vehicles, parts, equipment	303,350	1,848
Iron and steel scrap	5,164	415,642
Waste and scrap, n.e.c.	15	862,479
Commodities, n.e.c.	89,318	30,331
Miscellaneous	963,492	80,710
GRAND TOTAL	73,589,945	30,701,322

WATERWAYS OF THE UNITED STATES

NAVIGABLE LENGTHS AND DEPTHS OF UNITED STATES WATERWAY ROUTES

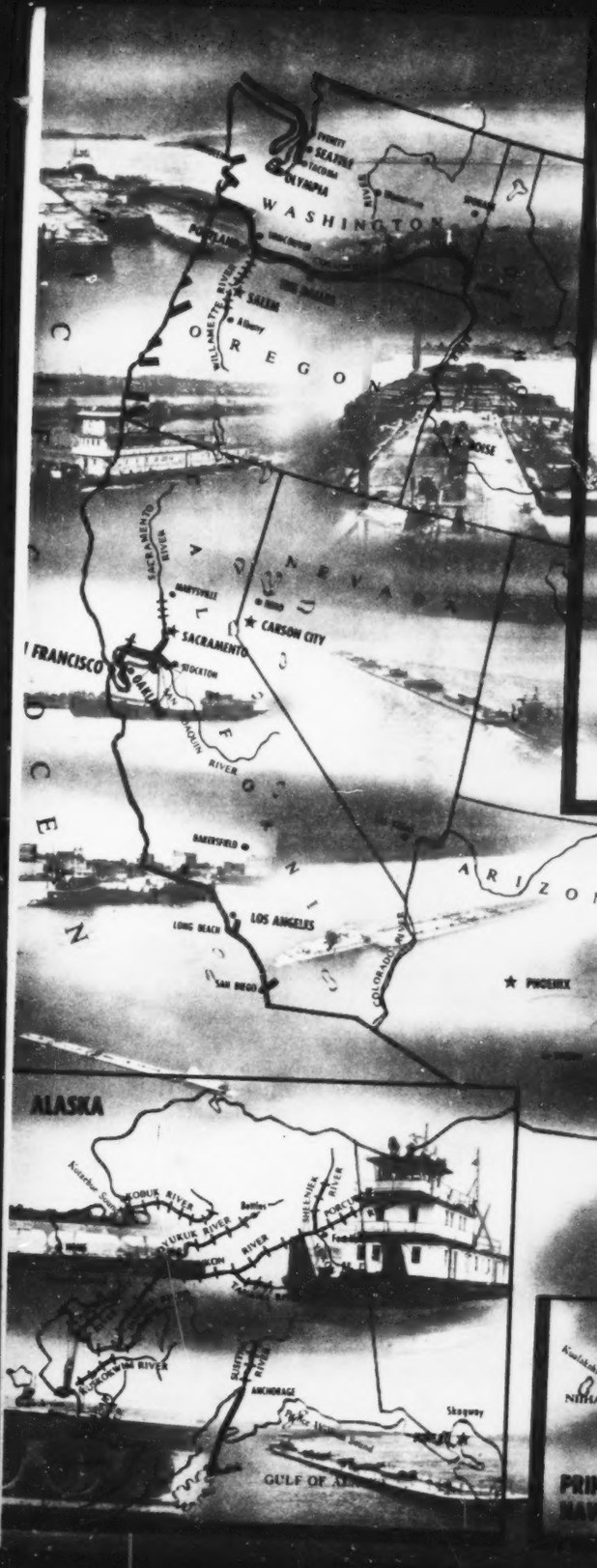
LENGTH IN MILES OF WATERWAY

	6 FT.	6 TO 9 FT.	9 TO 12 FT.	12 TO 14 FT.	14 FT. AND OVER	
Atlantic Coast Waterways (exclusive of Atlantic Intracoastal Waterway from Norfolk, Va., to Key West, Fla., but including New York State Barge Canal System)	1,426 1,487	1,241 1,445	584 589	938 965	1,581 1,544	5,708 6,030
Atlantic Intracoastal Waterway from Norfolk, Va., to Key West, Fla.		65 160	65 65	1,104 1,104	— —	1,234 1,329
Gulf Coast Waterways (exclusive of Gulf Intracoastal Waterway from St. Marks River, Fla., to Mexican Border)		647 812	1,135 2,095	79 269	370 388	
Gulf Intracoastal Waterway from St. Marks River, Fla., to Mexican Border (including Port Allen-Morgan City Alternate Route)		—	—	1,137 1,180	— —	1,137 1,180
Mississippi River System		969 1,457	4,957 5,062	740 755	268 268	8,954 11,907
Pacific Coast Waterways		488 515	237 237	38 27		
Great Lakes						
All Other Waterways (exclusive of Alaska)						

[1] The mileages shown in this table in each case represent the lengths of ... gable channels of the United States including those improved by the Federal ... ment, ... those which have ... proved but are usable ... commercial navigation.

The mileages shown in this ... represent the lengths authorized for improvement by the ... States in legislation known as Rivers and Harbors Acts.

The sources for these tabulations are publications of the Corps of Engineers, United States Army.



COMMERCIALLY NAVIGABLE
WATERWAYS OF THE UNITED STATES

CONTROLLING DEPTHS
9 FEET OR MORE
UNDER 9 FEET
AUTHORIZED EXTENSIONS

INLAND WATERWAYS OPERATORS, INC.
1000 WILSON BOULEVARD • SUITE 1900
ARLINGTON, VA. 22209

HUDSON RIVER

SECTION: From deepwater in Upper Bay, New York, to Waterford, New York - 155 miles

CONTROLLING DEPTHS: 12 to 27 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	40,952,909	2,461,659,464
1974	38,479,579	2,260,669,818
1975	34,135,648	1,959,202,309
1976	28,308,347	1,923,483,312
1977	28,220,192	1,939,792,560

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Grain and grain products	620,763	--	620,763
Bananas and plantains	172,247	--	172,247
Coffee	17,788	119,521	137,309
Coal and lignite	109	--	109
Limestone	689,817	--	689,817
Sand, gravel and crushed rock	1,230,541	2,719,654	3,950,195
Meat, fresh, chilled, frozen	75,713	--	75,713
Sugar	232,074	--	232,074
Molasses	168,578	--	168,578
Alcoholic beverages	179,041	--	179,041
Veg. oils, margarine, shortening	5,480	143,859	149,339
Miscellaneous food products	60,369	--	60,369
Basic textile products	36,939	--	36,939
Lumber	2,168	--	2,168
Pulp	5,024	--	5,024
Paper and paperboard	31,423	--	31,423
Sodium hydroxide	--	82,296	82,296
Crude tar, oil, gas products	266	18,385	18,651
Basic chemicals and products, n.e.c.	74,852	1,500	76,352
Plastic materials	40,915	--	40,915
Miscellaneous chemical products	22,496	--	22,496
Gasoline	790,631	3,447,158	4,237,789
Jet fuel	19,016	198,061	217,077
Kerosene	53,018	248,469	301,487
Distillate fuel oil	869,023	4,110,770	4,979,793
Residual fuel oil	3,089,767	4,298,964	7,388,731
Asphalt, tar and pitches	202,338	197,023	399,361
Other petroleum and coal products	22,798	25,389	48,187
Building cement	1,333,503	482,019	1,815,522
Iron and steel products	55,420	1,102	56,522
Clay and structural clay products	17,574	12,300	29,874
Copper alloys, unworked	10,554	9,419	19,973
Fabricated metal products	45,842	--	45,842

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Machinery, except electrical	105,416	--	105,416
Electrical machinery and equipment	53,234	--	53,234
Motor vehicles, parts and equipment	43,664	--	43,664
Miscellaneous manufactured products	33,896	--	33,896
Iron and steel scrap	121,883	63,200	185,083
Waste and scrap, n.e.c.	--	938,204	938,204
Miscellaneous	538,557	30,162	568,719
GRAND TOTAL	11,072,737	17,147,455	28,220,192

NEW YORK STATE BARGE CANAL

SECTION: From Tonawanda, New York, to Whitehall, New York, including the Erie, Oswego, Cayuga, Seneca, and Champlain Canals - 522 miles

CONTROLLING DEPTHS: 12 to 14 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	2,548,113	246,839,392
1974	2,222,827	215,430,282
1975	1,940,772	180,725,089
1976	2,227,052	193,092,844
1977	1,826,878	166,635,083

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Sand, gravel, crushed rock	9,142
Molasses	2,425
Basic chemicals and basic chemical products, n.e.c.	8,860
Gasoline	363,312
Jet Fuel	132,590
Kerosene	58,432
Distillate fuel oil	527,431
Residual fuel oil	470,618
Lubricating oils and greases	13,400
Asphalt, tar and pitches	152,788
Building cement	86,414
Machinery, except electrical	1,466
GRAND TOTAL	1,862,878

ILLINOIS WATERWAY

SECTION: From Illinois River at Grafton, Illinois, to Turning Basin No. 5 on Calumet River (includes Calumet-Sag Channel) - 353.6 miles

CONTROLLING DEPTHS: 9 to 12 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	38,609,943	7,639,831,856
1971	38,324,867	7,312,185,374
1972	43,970,391	8,350,419,627
1973	44,510,478	8,450,727,892
1974	45,301,607	8,825,841,497
1975	47,242,597	8,992,017,443
1976	46,853,608	8,988,507,803
1977	44,516,298	8,518,085,320

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons: Coastwise and Lakewise	Net Tons: Inland Waterway
Grain and grain products	53,836	12,901,440
Soybeans	--	2,472,080
Prepared animal feeds	5,114	--
Aluminum ores and concentrates	--	94,786
Nonferrous ores and concentrates, n.e.c.	--	28,355
Coal and lignite	--	6,521,486
Crude petroleum	--	150,334
Sand, gravel, crushed rock	--	3,363,452
Fertilizer and fertilizer materials	116,704	1,671,898
Sulphur, dry and liquid	--	120,613
Nonmetallic minerals, n.e.c.	--	919,492
Tallow, animal fats and oils	--	52,542
Sugar	--	328,551
Molasses	--	80,514
Vegetable oils, margarine, shortenings	--	82,652
Veneer, plywood, worked wood	--	62,538
Pulp	--	28,955
Sodium hydroxide	--	306,271
Crude tar, oil, gas products	5,279	147,520
Alcohols	1,299	334,044
Benzene and toluene	1,383	169,349
Sulphuric acid	193,934	124,926
Basic chemicals and products, n.e.c.	--	1,558,879
Gasoline	126,031	1,348,739
Jet fuel	--	94,935
Kerosene	5,211	35,778
Distillate fuel oil	275,732	1,375,340
Residual fuel oil	839,941	1,864,687
Lubricating oils and greases	--	353,942
Naphtha, petroleum solvents	1,590	366,056
Asphalt, tar and pitches	26,719	506,251

Coke and petroleum coke	--	961,587
Other petroleum and coal products	11,445	21,256
Building cement	--	750,806
Lime	--	274,526
Slag	--	103,361
Iron and steel products	1,196	1,751,414
Ferroalloys	--	168,826
Lead and zinc, unworked	--	35,612
Fabricated metal products	503	46,595
Iron and steel scrap	63,025	410,087
Waste and scrap, n.e.c.	--	633,489
Miscellaneous	--	163,392
GRAND TOTAL	1,728,942	42,787,356

JAMES RIVER

SECTION: From Richmond, Virginia, to Hampton Roads at Newport News, Virginia - 89 miles

CONTROLLING DEPTHS: 17.8 to 25 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	7,301,413	435,709,182
1971	8,551,305	526,683,591
1972	6,554,555	408,542,427
1973	7,805,992	482,358,804
1974	7,714,515	471,973,029
1975	5,566,000	361,115,892
1976	6,192,395	396,102,080
1977	6,714,097	412,434,993

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

	Net Tons		
Commodity	Oceangoing	Inland Waterway	Total
Tobacco, leaf	26,047	--	26,047
Crude rubber and allied gums	2,627	--	2,627
Shellfish, except prepared or preserved	--	2,764	2,764
Sand, gravel, crushed rock	775	3,957,109	3,957,884
Sulphur, dry and liquid	169,602	--	169,602
Tobacco manufacturers	3,232	--	3,232
Basic textile products	4,812	--	4,812
Standard newsprint paper	24,550	--	24,550
Paper and paperboard	1,118	--	1,118
Alcohols	958	3,900	4,858
Sulphuric acid	6,050	16,583	22,633
Synthetic rubber	4,044	--	4,044
Plastic materials	8,459	--	8,459
Basic chemicals and products, n.e.c.	8,710	36,155	44,865
Fertilizer and fertilizer materials	331,212	141,803	473,015
Gasoline	--	91,090	91,090
Distillate fuel oil	--	200,184	200,184
Residual fuel oil	--	1,431,918	1,431,918
Asphalt, tar and pitches	10,865	170,171	181,036
Other petroleum and coal products	102	5,678	5,780
Rubber & miscellaneous plastic products	2,657	--	2,657
Glass & glass products	2,133	--	2,133
Fabricated metal products	1,011	1,345	2,356
Iron and steel scrap	31,293	2,246	33,539
Miscellaneous	12,597	297	12,849
GRAND TOTAL	652,854	6,061,243	6,714,097

KANAWHA RIVER

SECTION: Deepwater, West Virginia, to the Kanawha River's confluence with the Ohio River at Point Pleasant, West Virginia - 91 miles

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	14,169,337	796,234,247
1974	12,781,026	713,681,050
1975	12,449,424	657,277,327
1976	12,250,362	662,228,354
1977	10,755,599	562,178,431

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Manganese ores and concentrates	14,087
Coal and lignite	5,840,724
Limestone	27,806
Sand, gravel, crushed rock	1,991,240
Sulphur, liquid	35,524
Nonmetallic minerals, n.e.c.	86,011
Sodium hydroxide	209,635
Alcohols	439,626
Benzene and toluene	22,238
Sulphuric acid	76,410
Basic chemicals and products, n.e.c.	641,108
Miscellaneous chemical products	99,702
Gasoline	681,978
Jet fuel	29,592
Kerosene	19,623
Distillate fuel oil	240,110
Lubricating oils and greases	22,666
Naphtha, petroleum solvents	69,064
Coke, petroleum coke	7,577
Other petroleum and coal products	7,430
Building cement	93,706
Iron and steel products	7,188
Iron and steel scrap	14,723
Miscellaneous	77,831
GRAND TOTAL	10,755,599

KASKASKIA RIVER

SECTION: Mouth at Mississippi River to Mile 36.2 at Fayetteville, Illinois.

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	25,236	-
1974	216,268	-
1975	194,750	-
1976	589,508	14,147,950
1977	1,286,808	31,788,700

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Coal and lignite	1,184,808
Sand, gravel, crushed rock	61,500
Machinery, except electrical	1,500
Waterway improvement material	39,000
GRAND TOTAL	1,286,808

KENTUCKY RIVER

SECTION: From Carrollton, Kentucky, at the Kentucky River's confluence with the Ohio River, south to the junction of the North and Middle Forks east of Beattyville, Kentucky - 259 miles

CONTROLLING DEPTH: 6 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1973	777,894	52,282,252
1974	652,607	43,237,662
1975	580,481	39,416,325
1976	538,712	35,554,992
1977	465,116	30,266,386

PRINCIPAL COMMODITY FOR CALENDAR YEAR 1977

Commodity	Net Tons
Sand, gravel, crushed rock	458,046
Alcohols	7,070
GRAND TOTAL	465,116

McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM

SECTION: From confluence of White and Mississippi Rivers to Catoosa, Oklahoma, via White River, Arkansas Post Canal, Arkansas, and Verdigris Rivers (448 miles).

CONTROLLING DEPTH: Minimum—9 feet.

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1972	5,337,370	520,887,271
1973	4,955,789	338,623,935
1974	6,000,443	451,108,827
1975	5,156,562	430,977,451
1976	6,538,434	778,259,780
1977	9,145,956	1,297,556,979

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Grain and grain products	-	504,755
Soybeans	-	619,598
Aluminum ores, concentrates	-	752,913
Nonferrous ores, concentrates, n.e.c.	-	2,296
Coal and lignite	6,364	508,921
Crude petroleum	-	20,908
Limestone	-	11,000
Sand, gravel, crushed rock	-	2,745,228
Fertilizer and fertilizer materials	1,292	351,265
Prepared animal feeds	-	60,300
Molasses	-	30,416
Logs	-	6,661
Paper and paperboard	-	111,750
Pulp and paper products, n.e.c.	-	5,506
Sodium hydroxide	-	183,183
Alcohols	-	13,668
Benzene and toluene	-	6,775
Basic chemicals and products, n.e.c.	-	47,863
Distillate fuel oil	-	184,943
Residual fuel oil	-	1,845,161
Asphalt, tar and pitches	-	20,321
Slag	3,185	26,723
Iron and steel products	-	312,185
Fabricated metal products	-	16,381
Iron and steel scrap	-	19,772
Waterway improvement materials	-	676,521
Miscellaneous	-	50,102
GRAND TOTAL	10,841	9,135,115

MINNESOTA RIVER

SECTION: Mouth to Shakopee, Minnesota - 25.6 miles

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	3,601,743	--
1971	3,626,132	--
1972	4,314,833	--
1973	4,284,012	--
1974	4,778,630	--
1975	3,842,850	--
1976	3,898,291	54,693,553
1977	3,407,261	46,533,312

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Grain and grain products	1,978,843
Soybeans	174,718
Oilseeds, n.e.c.	12,120
Coal and lignite	844,058
Nonmetallic minerals, n.e.c.	72,536
Prepared animal feeds	45,809
Molasses	42,327
Vegetable oils, margarine, shortening	43,011
Fertilizer and fertilizer materials	148,635
Petroleum products	26,522
Iron and steel products	17,391
Miscellaneous	1,291
GRAND TOTAL	3,407,261

UPPER MISSISSIPPI RIVER

SECTION : From Minneapolis, Minnesota to the mouth of the Missouri River — 663 miles

CONTROLLING DEPTH: 9 Feet

TOTAL ANNUAL TRAFFIC

	Inland Waterway		Oceangoing	
Year	Net Tons	Ton-Miles	Net Tons	Ton-Miles
1973	57,818,045	10,873,575,077	246,153	5,626,401
1974	61,747,186	11,700,427,879	266,458	7,122,004
1975	63,080,102	11,293,894,600	158,565	8,620,861
1976	68,276,914	11,688,260,904	143,393	8,289,820
1977	67,020,864	11,380,455,846	197,278	13,848,016

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

	Net Tons	
Commodity	Oceangoing	Inland Waterway
Grain and grain products	59,271	23,907,585
Soybeans	--	4,766,637
Aluminum ores, concentrates, n.e.c.	--	96,175
Coal and lignite	--	9,056,503
Crude petroleum	--	752,011
Sand, gravel, crushed rock	--	2,137,630
Sulphur, dry and liquid	--	113,137
Nonmetallic minerals, n.e.c.	--	1,402,134
Prepared animal feeds	5,114	129,452
Sugar	--	331,142
Molasses	--	298,928
Vegetable oils, margarine, shortening	--	385,701
Sodium hydroxide	--	430,192
Crude tar, oil, gas products	--	149,489
Alcohols	--	353,396
Benzene and toluene	--	248,623
Sulphuric acid	--	123,602
Basic chemicals and products, n.e.c.	1,266	2,072,246
Fertilizer and fertilizer materials	131,147	3,487,314
Gasoline	--	3,556,925
Jet fuel	--	202,441
Kerosene	--	26,372
Distillate fuel oil	--	2,021,594
Residual fuel oil	--	2,362,422
Lubricating oils and greases	--	509,259
Naphtha, petroleum solvents	--	426,308
Asphalt tar and pitches	--	1,442,344
Coke, petroleum coke	--	751,973
Other petroleum and coal products	--	95,950
Building cement	--	1,664,831
Lime	--	268,965
Slag	--	141,991
Iron and steel products	--	1,864,571
Ferroalloys	--	172,694
Electrical machinery and equipment	480	1,752
Iron and steel scrap	--	356,513
Waterway improvement material	--	165,800
Miscellaneous	--	746,262
GRAND TOTAL	197,278	67,020,864

MISSISSIPPI RIVER

SECTION: From Minneapolis, Minnesota to the mouth of Passes - 1,837 miles
CONTROLLING DEPTH: 9 to 40 feet

TOTAL ANNUAL TRAFFIC

Year	Oceangoing	Inland Waterway	Total
	Net Tons		
1972	93,174,371	178,806,043	271,980,414
1973	102,345,760	174,001,136	276,346,896
1974	112,754,958	189,834,656	302,589,614
1975	123,325,607	187,913,877	311,239,484
1976	152,855,495	203,328,232	356,183,727
1977	185,282,919	211,488,297	396,771,216
	Ton-Miles		
1972	14,021,094,636	93,455,455,377	107,476,550,013
1973	15,478,890,445	91,479,128,715	106,958,019,160
1974	17,328,836,147	99,883,317,438	117,212,153,585
1975	19,401,952,194	99,715,863,367	119,117,815,561
1976	24,656,411,741	110,564,437,157	135,220,848,898
1977	29,911,859,876	109,554,793,105	139,466,652,981

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons Oceangoing	Net Tons Inland Waterway	Net Tons Total
Grain and grain products	38,312,284	35,845,755	74,158,039
Soybeans	10,992,666	10,961,402	21,954,068
Oilseeds, n.e.c.	111,124	145,393	256,517
Coffee	197,144	2,097	199,241
Marine shells, unmanufactured	--	3,015,934	3,015,934
Crude rubber and allied gums	154,606	3,789	158,395
Iron ores and concentrates	833,939	733,303	1,567,242
Aluminum ores and concentrates	6,443,336	929,454	7,372,790
Manganese ores and concentrates	223,632	374,723	598,355
Nonferrous ores, concentrates n.e.c.	547,945	674,252	1,222,197
Coal and lignite	4,466,805	23,138,073	27,604,878
Crude petroleum	78,923,297	18,585,056	97,508,353
Limestone	216,316	175,493	391,809
Sand, gravel, crushed rock	1,519	5,682,160	5,683,679
Clay and structural clay products	163,530	397,768	561,298
Sulphur, dry and liquid	1,787,732	2,391,690	4,179,422
Nonmetallic minerals, n.e.c.	707,534	4,877,047	5,584,581
Tallow, animal fats and oils	378,694	159,234	537,928
Prepared animal feeds	538,521	514,308	1,052,829
Sugar	1,807,101	588,601	2,395,702

Commodity	Oceangoing	Net Tons Inland Waterway	Total
Molasses	671,331	641,637	1,312,968
Veg. oils, margarine, shortening	1,219,407	845,593	2,065,000
Logs	44,324	318,061	362,385
Pulpwood, log	--	133,298	133,298
Lumber	79,139	41,081	120,220
Veneer, plywood, worked wood	124,162	63,762	187,924
Pulp	348,102	164,705	512,807
Paper and paperboard	452,354	379,594	831,948
Sodium hydroxide	274,160	2,532,982	2,807,142
Crude tar, oil, gas products	52,252	770,250	822,502
Alcohols	378,935	1,579,941	1,958,876
Benzene and toluene	71,633	1,479,627	1,551,260
Sulphuric acid	1,040	868,941	869,981
Basic chemicals & products,n.e.c.	2,833,321	9,677,280	12,510,601
Plastic materials	85,063	44,840	129,903
Synthetic rubber	13,157	106,425	119,582
Fertilizer & fertilizer materials	9,239,895	6,745,995	15,985,890
Miscellaneous chemical products	177,598	188,980	366,578
Gasoline	4,050,411	15,492,919	19,543,330
Jet Fuel	833,297	1,253,959	2,087,256
Kerosene	469,311	343,795	813,106
Distillate fuel oil	4,138,184	10,662,595	14,800,779
Residual fuel oil	5,043,941	21,506,580	26,550,521
Lubricating oils & greases	419,587	1,982,280	2,401,867
Naphtha, petroleum solvents	215,822	2,144,514	2,360,336
Asphalt, tar and pitches	166,992	2,569,058	2,736,050
Coke, petroleum coke	141,777	1,747,625	1,889,402
Liquefied gases	125,948	965,370	1,091,318
Other petroleum & coal products	43,785	392,664	436,449
Building cement	30,330	2,801,365	2,831,695
Lime	3,066	713,823	716,889
Slag	20,136	230,487	250,623
Coke, petroleum asphalts, solvents	1,313,024	--	1,313,024
Iron and steel products	2,789,684	4,297,470	7,087,154
Ferroalloys	578,960	650,303	1,229,263
Lead & zinc, unworked	38,478	102,419	140,897
Aluminum & alloys, unworked	148,518	78,328	226,846
Fabricated metal products	188,491	121,040	309,531
Machinery, except electrical	242,010	124,005	366,015
Electrical machinery & equipment	38,761	107,537	146,298
Motor vehicles, parts, equipment	62,237	4,618	66,855
Ships and boats	12,754	21,735	34,489
Miscellaneous manufactured prods.	4,150	248,349	252,499
Iron and steel scrap	163,397	877,589	1,040,986
Nonferrous metal scrap	154,819	15,200	170,019
Waste and scrap, n.e.c.	1,400	198,176	199,576
Water	--	347,287	347,287
Waterway improvement materials	--	5,311,360	5,311,360
Miscellaneous	970,051	397,323	1,367,374
GRAND TOTAL	185,282,919	211,488,297	396,771,216

MISSOURI RIVER

SECTION: From Fort Benton, Montana, to the mouth of the Missouri River - 2073.2 miles

CONTROLLING DEPTHS: 7.5 to 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	7,519,251	1,190,232,057
1971	7,483,708	1,329,899,221
1972	7,182,841	1,280,384,981
1973	6,370,838	884,405,933
1974	7,673,084	1,227,524,876
1975	6,208,426	1,105,811,014
1976	6,552,949	1,535,911,975
1977	6,734,850	1,596,283,935

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons Oceangoing	Net Tons Inland Waterway
Grain and grain products	--	1,344,650
Soybeans	--	132,570
Sand, gravel, crushed rock	--	3,073,569
Nonmetallic minerals, n.e.c.	--	144,342
Tallow, animal fats and oils	--	52,947
Prepared animal feeds	--	179,593
Molasses	--	179,539
Vegetable oils, margarine, shortening	--	78,254
Sodium hydroxide	--	14,520
Alcohols	--	25,445
Basic Chemicals and products, n.e.c.	--	17,165
Gasoline	--	59,279
Other petroleum and coal products	--	26,899
Coke, petroleum coke	--	349,688
Fertilizer and materials	1,216	478,128
Building cement	--	147,403
Iron and steel products	--	77,488
Waterway improvement materials	--	325,501
Miscellaneous	--	26,654
GRAND TOTAL	1,216	6,733,634

MONONGAHELA RIVER

SECTION: From Pittsburgh, Pennsylvania, at the Monongahela River's confluence with the Ohio and Allegheny Rivers to Fairmont, West Virginia - 129 miles

CONTROLLING DEPTHS: 7 to 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	42,274,126	1,824,834,573
1971	35,670,419	1,420,170,445
1972	38,624,403	1,527,938,779
1973	37,592,584	1,494,803,894
1974	38,265,899	1,641,720,394
1975	37,268,425	1,538,912,980
1976	36,489,211	1,519,897,770
1977	34,420,145	1,351,745,761

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Iron ore and concentrates	--	390,921
Manganese ores and concentrates	--	146,471
Coal and lignite	--	28,410,832
Crude petroleum	--	46,621
Sand, gravel, crushed rock	--	970,598
Nonmetallic minerals, n.e.c.	--	150,998
Crude tar, oil, gas products	--	176,625
Benzene and toluene	--	127,070
Sulphuric acid	--	23,700
Basic chemicals and products, n.e.c.	--	151,437
Gasoline	--	935,048
Kerosene	--	24,178
Distillate fuel oil	--	646,916
Residual fuel oil	--	684,351
Lubricating oils and greases	--	21,912
Asphalt, tar and pitches	--	181,862
Coke, petroleum coke	--	81,330
Building cement	--	41,929
Iron and steel products	1,116	899,777
Copper alloys, unworked	--	21,199
Lead and zinc, unworked	--	24,457
Fabricated metal products	--	46,423
Iron and steel scrap	--	130,622
Miscellaneous	--	83,752
GRAND TOTAL	1,116	34,419,029

OHIO RIVER

SECTION: From Pittsburgh, Pennsylvania, at junction of Allegheny and Monongahela Rivers, to the Ohio River's confluence with the Mississippi River at Cairo, Illinois - 981 miles.

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

	Inland Waterway		Oceangoing	
Year	Net Tons	Ton-Miles	Net Tons	Ton-Miles
1970	129,556,876	30,242,151,119	27,792	12,021,535
1971	133,335,784	30,896,445,937	28,121	9,038,912
1972	138,848,346	32,055,617,509	29,346	10,849,428
1973	135,724,305	29,925,212,855	36,170	16,984,756
1974	139,258,864	31,929,318,977	35,349	15,765,982
1975	140,038,398	32,313,473,639	19,916	6,940,114
1976	148,394,558	34,358,944,032	23,252	12,704,985
1977	151,372,496	37,453,616,476	30,121	13,815,683

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

	Net Tons	
Commodity	Inland Waterway	Oceangoing
Grain and grain products	5,684,613	--
Soybeans	1,099,401	--
Iron ores and concentrates	686,000	--
Aluminum ore, concentrates	66,499	--
Manganese ores and concentrates	442,873	--
Nonferrous ores, concentrates, n.e.c.	445,575	--
Coal and lignite	81,180,693	--
Crude petroleum	406,463	--
Limestone	927,866	--
Sand, gravel, crushed rock	17,035,725	--
Clay and structural clay products	76,018	614
Sulphur, liquid	158,709	--
Nonmetallic minerals, n.e.c.	2,093,121	--
Prepared animal feeds	123,295	--
Sugar	30,855	--
Molasses	58,643	--
Vegetable oils, margarine, shortening	205,817	--
Standard newsprint paper	26,206	--
Basic textile products	2,727	50
Sodium hydroxide	531,267	--
Crude tar, oil, gas products	702,405	--
Alcohols	840,915	--
Benzene and toluene	449,056	--
Sulphuric acid	191,463	--

Commodity	Net Tons	
	Inland Waterway	Oceangoing
Basic chemials and products, n.e.c.	4,950,919	--
Plastic materials	41,961	--
Fertilizer and fertilizer materials	1,383,415	15,759
Miscellaneous chemical products	176,004	--
Gasoline	8,508,202	--
Jet Fuel	966,599	--
Kerosene	221,455	--
Distillate fuel oil	5,307,404	--
Residual fuel oil	3,752,528	--
Lubricating oils and greases	824,834	--
Naphtha, petroleum solvents	346,755	--
Asphalt, tar and pitches	1,725,332	--
Coke, petrcleum coke	413,148	--
Liquefied gases	93,436	--
Other petroleum and coal products	28,231	--
Glass and glass products	25,443	--
Building cement	1,052,594	--
Lime	595,921	--
Pig iron	84,808	--
Slag	112,339	--
Ferroalloys	572,864	--
Iron and steel products	2,559,919	9,060
Copper alloys, unworked	25,430	--
Lead and zinc, unworked	56,989	--
Aluminum and alloys, unworked	63,644	--
Fabricated metal products	82,727	320
Machinery, except electrical	83,717	1,325
Electrical machinery and equipment	78,656	2,592
Ships and boats	15,031	401
Iron and steel scrap	354,284	--
Waste and scrap, n.e.c.	31,758	--
Waterway improvement materials	3,231,717	--
Miscellaneous	138,227	--
GRAND TOTAL	151,372,496	30,121

POTOMAC RIVER

SECTION: From mouth to Giesboro Point at Washington, D. C. - 108 miles (includes Broad Creek, Nanjemoy Creek, Mattox Creek, Chicamuxen Creek, St. Clement Bay and Piscataway Creek, which were formerly reported under Potomac River Tributaries)

CONTROLLING DEPTH: 20.5 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	6,933,898	432,510,141
1971	8,639,605	477,296,971
1972	7,659,645	455,533,983
1973	8,074,656	578,515,157
1974	6,633,521	454,974,710
1975	5,205,169	354,303,374
1976	6,037,072	418,064,030
1977	6,476,344	444,774,563

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Corn	--	582	582
Soybeans	--	705	705
Fresh fish, except shellfish	--	1,301	1,301
Shellfish, except prepared	--	16,423	16,423
Marine shells, unmanufactured	--	54,554	54,554
Alcoholic beverages	40	--	40
Standard newsprint paper	148,262	--	148,262
Paper and paperboard	2,332	--	2,332
Gasoline	8,087	4,573	12,660
Jet fuel	42,287	143,262	185,549
Distillate fuel oil	209,266	333,411	552,667
Residual fuel oil	2,749,167	2,444,007	5,193,174
Asphalt, tar and pitches	16,456	301,146	317,602
Fabricated metal products	26	401	427
Machinery, except electrical	2	--	2
Electrical machinery and equipment	2	--	2
Commodities, n.e.c.	52	--	52
GRAND TOTAL	3,175,979	3,300,365	6,476,344

SACRAMENTO RIVER

SECTION: From mouth of River to Red Bluff via River route. (Includes commerce of Sacramento River Deepwater Ship Channel and the Port of Sacramento, California) - 248 miles

CONTROLLING DEPTHS: 6 to 15 feet; Port of Sacramento - 30 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	4,290,285	148,743,169
1971	4,920,485	168,137,575
1972	1,770,489	74,453,737
1973	2,044,519	95,705,437
1974	1,485,044	61,407,313
1975	1,788,843	72,719,306
1976	1,756,051	69,809,319
1977	1,602,291	64,389,057

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Grain and grain products	736,606	--	736,606
Oilseeds, n.e.c.	10,481	--	10,481
Hay and fodder	5,398	--	5,398
Sand, gravel, crushed rock	--	138,648	138,648
Clay	525	--	525
Meat, fresh, chilled, frozen	412	--	412
Prepared animal feeds	9,849	--	9,849
Molasses	--	1,300	1,300
Logs	164,117	--	164,117
Wood chips, staves, moldings	440,027	--	440,027
Fertilizer and fertilizer materials	57,209	--	57,209
Distillate fuel oil	--	314	314
Residual fuel oil	--	3,343	3,343
Fabricated metal products	704	--	704
Machinery, except electrical	81	700	781
Iron and steel scrap	23,498	--	23,498
Miscellaneous	8,604	475	9,079
GRAND TOTAL	1,457,511	144,780	1,602,291

SAN JOAQUIN RIVER

SECTION: From Stockton, California, to the mouth of San Joaquin River at Suisun Bay - 45 miles. From Stockton Channel to Hills Ferry - 86 miles.

CONTROLLING DEPTHS: 3 to 30 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	6,553,524	198,550,072
1971	6,839,741	201,473,386
1972	3,025,392	70,315,229
1973	3,706,593	81,336,734
1974	3,722,780	69,014,909
1975	4,124,421	84,296,941
1976	4,643,914	69,770,870
1977	3,507,137	70,881,198

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Cotton, raw	5,827	--	5,827
Grain and grain products	420,190	7,609	427,799
Oilseeds, n.e.c.	19,508	--	19,508
Coal and lignite	157,115	--	157,115
Crude petroleum	118,660	--	118,660
Limestone	489,426	--	489,426
Sand, gravel, crushed rock	--	116,203	116,203
Clay and structural clay products	48,796	--	48,796
Salt	--	148,500	148,500
Prepared animal feeds	82,052	1,424	83,476
Molasses	16,860	103,618	120,478
Wood chips, staves, molding	28,373	--	28,373
Sodium hydroxide	--	48,761	48,761
Alcohols	--	12,889	12,889
Basic chemicals and products, n.e.c.	1,105	34,867	35,972
Fertilizer and fertilizer materials	148,258	196,537	344,795
Gasoline	--	68,752	68,752
Distillate fuel oil	--	34,893	34,893
Residual fuel oil	--	705,474	705,474
Other petroleum and coal products	5	--	5
Coke, petroleum asphalts, solvents	300,116	--	300,116
Iron and steel products	425	20,000	20,425
Machinery, except electrical	2,223	1,845	4,068
Iron and steel scrap	81,639	--	81,639
Nonferrous metal scrap	31,551	--	31,551
Miscellaneous	50,466	3,170	53,636
GRAND TOTAL	2,002,595	1,504,542	3,507,137

SNAKE RIVER

OREGON, WASHINGTON AND IDAHO

SECTION: Mouth of Snake River to Johnson Bar Landing
CONTROLLING DEPTH: 14 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton Miles
1970	746,068	--
1971	975,489	--
1972	1,735,391	--
1973	1,760,946	--
1974	1,729,725	--
1975	2,010,721	--
1976	2,894,606	210,093,845
1977	2,911,249	214,892,369

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons
Grain	2,068,443
Logs	39,846
Wood chips, staves, moldings	72,188
Paper and paperboard	31,709
Basic chemicals and products, n.e.c.	27,991
Nitrogenous chemical products	31,602
Gasoline	324,674
Jet fuel	40,491
Distillate fuel oil	202,898
Asphalt, tar and pitches	33,861
Other petroleum products	21,243
Miscellaneous	16,303
GRAND TOTAL	2,911,249

TENNESSEE RIVER

SECTION: From the junction of French and Holston Rivers at Knoxville, Tennessee, to the Tennessee River's confluence with the Ohio River at Paducah, Kentucky - 652 miles

CONTROLLING DEPTH: 9 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	25,489,225	3,667,740,299
1971	27,685,211	3,960,491,547
1972	28,529,732	3,755,867,106
1973	29,346,595	3,928,498,660
1974	27,123,623	3,578,808,825
1975	28,316,539	3,915,824,883
1976	26,254,165	3,663,744,641
1977	26,583,240	3,747,588,855

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons	
	Oceangoing	Inland Waterway
Grain and grain products	--	1,931,396
Soybeans	--	227,680
Manganese ores and concentrates	--	178,442
Nonferrous ores and concentrates, n.e.c.	--	293,965
Coal and lignite	--	10,081,998
Sand, gravel, crushed rock	--	3,257,622
Nonmetallic minerals, n.e.c.	--	605,661
Prepared animal feeds	--	96,416
Vegetable oils, margarine, shortening	--	122,754
Pulpwood, log	--	338,367
Pulp	--	55,393
Paper and paperboard	--	81,338
Sodium hydroxide	--	305,851
Crude tar, oil and gas products	--	241,608
Alcohols	--	53,407
Sulphuric acid	--	56,750
Basic chemicals and products, n.e.c.	--	1,647,904
Fertilizer and fertilizer materials	2,582	290,688
Miscellaneous chemical products	--	120,458
Gasoline	--	986,211
Jet fuel	--	88,975
Distillate fuel oil	--	831,084
Residual fuel oil	--	629,753
Lubricating oils and greases	--	251,368
Asphalt, tar and pitches	--	697,343
Coke, petroleum coke	--	32,723
Liquefied gases	--	42,029
Other petroleum and coal products	--	6,254
Glass and glass products	--	23,987
Building cement	--	302,768

Slag	--	24,916
Iron and steel products	--	542,942
Ferroalloys	--	186,654
Aluminum and alloys, unworked	--	26,069
Fabricated metal products	320	9,219
Machinery, except electrical	900	14,475
Electrical machinery and equipment	1,290	64,979
Ships and boats	401	16,733
Iron and steel scrap	--	105,691
Waterway improvement materials	--	1,529,254
Miscellaneous	--	176,622
GRAND TOTAL	5,493	26,577,747

WILLAMETTE RIVER

SECTION: From Corvallis, Oregon, to the Willamette River's confluence with the Columbia River at Portland, Oregon - 132 miles

CONTROLLING DEPTHS: 2.5 to 8 feet

TOTAL ANNUAL TRAFFIC

Year	Net Tons	Ton-Miles
1970	3,623,010	30,091,757
1971	5,277,592	23,248,472
1972	4,683,635	20,639,560
1973	4,411,295	20,227,999
1974	5,985,994	27,240,208
1975	4,999,407	21,538,874
1976	5,675,462	23,451,846
1977	5,186,344	60,233,056

PRINCIPAL COMMODITIES FOR CALENDAR YEAR 1977

Commodity	Net Tons		
	Oceangoing	Inland Waterway	Total
Limestone	70,334	237	70,571
Sand, gravel, crushed rock	415,033	3,882,757	4,297,790
Grain mill products, n.e.c.	--	6,307	6,307
Rafted logs	--	307,192	307,192
Wood chips, staves, moldings	--	97,608	97,608
Pulp	--	24,420	24,420
Pulp and paper products, n.e.c.	--	354,921	354,921
Residual fuel oil	--	20,497	20,497
Miscellaneous	--	7,038	7,038
GRAND TOTAL	485,367	4,700,977	5,186,344

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